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=> e panicali, dé¤a
E1            2      PANIC, V/AU
E2            2      PANIC, VUKOSAVA/AU
E3            1 --> PANICALI, D/AU
E4            2      PANICALI, D L/AU
E5           17      PANICALI, DENNIS/AU
E6           15      PANICALI, DENNIS L/AU
E7            1      PANICALL, DENNIS L/AU
E8            1      PANICAN, A/AU
E9            2      PANICCI, RONALD J/AU
E10           1      PANICCI, RONALD JOHN/AU
E11          18      PANICCIA, F/AU
E12           7      PANICCIA, FRANCO/AU

=> s e3-e7
              1 "PANICALI, D"/AU
              2 "PANICALI, D L"/AU
             17 "PANICALI, DENNIS"/AU
             15 "PANICALI, DENNIS L"/AU
              1 "PANICALL, DENNIS L"/AU
L1           36 ("PANICALI, D"/AU OR "PANICALI, D L"/AU OR "PANICALI, DENN
                IS"/AU OR "PANICALI, DENNIS L"/AU OR "PANICALL, DENNIS L"/
                AU)

=> e bernards, r/au
E1            2      BERNARDS, JAN P C/AU
E2            2      BERNARDS, MARK A/AU
E3           16 --> BERNARDS, R/AU
E4           17      BERNARDS, RENE/AU
E5            1      BERNARDS, ROGER F/AU
E6            2      BERNARDS, T M N/AU
E7            6      BERNARDS, T N M/AU
E8            1      BERNARDT, WOLFGANG/AU
E9            7      BERNARDUCCI, ERNEST/AU
E10           3      BERNARDUCCI, ERNEST E/AU
E11           1      BERNARDUCCI, ERNEST JR/AU
E12           1      BERNARDY SIGOYER, R C/AU

=> s e3-e4
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L2            33 ("BERNARDS, R"/AU OR "BERNARDS, RENE"/AU)

=> s l1 and l2
L3             2 L1 AND L2

=> d an ti so au pi ai pyaab

L3   ANSWER 1 OF 2
COPYRIGHT (C) 1991 AMERICAN CHEMICAL SOCIETY

AN   CA111(24):219260d
TI   Immunization against tumor-specific antigens using poxvirus
     expression vectors
SO   PCT Int. Appl., 46 pp.
AU   Panicali, Dennis L.; Bernards, Rene
PI   WO 8901973  A1  9 Mar 1989
AI   WO 88-US3032  1 Sep 1988
PY   1989
AB   Attenuated pox-virus vectors expressing genes for tumor-specific
     antigens from an expression cassette cloned into a region of
     dispensable functions on the viral genome are constructed.  These
     expression vectors can be used to inoculate animals and produce an
     immune response to the tumor-specific antigens expressed by these
     vectors.  The rat neu cellular oncogene was cloned in a vaccinia
     expression vector and expressed in infected CV-1 cells.  When the
     virus was injected into mice there was a strong immune response to
     the neu gene product in certain strains.  The responding mice
     vigorously rejected transformed NIH3T3 cells expressing the neu
     gene.  Injection of rats with the same expression vector failed to
     stimulate a humoral response.

=> d an ti so au pi ai py ab 2

L3   ANSWER 2 OF 2
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AN   CA108(3):20173k
TI   Effective tumor immunotherapy directed against an oncogene-encoded
     product using a vaccinia virus vector
SO   Proc. Natl. Acad. Sci. U. S. A., 84(19), 6854-8
AU   Bernards, Rene; Destree, Antoinette; McKenzie, Sara; Gordon, Ethel;
     Weinberg, Robert A.; Panicali, Dennis
PY   1987
AB   A vaccinia virus recombinant was constructed that expresses the
     extracellular domain of the rat neu oncogene-encoded protein, a
     185-kilodalton transmembrane glycoprotein termed p185.  Strain NFS
     mice immunized with this recombinant virus developed a strong
     antibody response against the neu oncogene product and were fully
     protected against subsequent tumor challenge with neu-transformed
     NIH 3T3 cells.  No tumor immunoprotection was found when recombinant
     virus-immunized mice were challenged with Ha-ras-transformed NIH 3T3
     cells.  Thus, immunization with a single oncogene-encoded antigen
     can fully and specifically protect animals against tumor cells
     bearing this antigen.

=> s p(o)x(0)virus
=> s ((pox or vaccinia)(w)virus?)/ab,bi
          265 POX/AB
          344 POX/BI
         3187 VACCINI?/AB
         2709 VACCINI?/BI
        74241 VIRUS?/AB
       109771 VIRUS?/BI
L4       2717 ((POX OR VACCINI?)(W)VIRUS?)/AB,BI
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L5 27 L4 AND (L1 OR )

=> d .caab 1-27

L5 ANSWER 1 OF 27
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AN CA114(23):222825j
TI Recombinant defective, non-self-propagating viral particles for use as vaccines
SO PCT Int. Appl., 67 pp.
AU Mazzara, Gail P.; Roberts, Brian; Panicali, Dennis L.
PI WO 9015141 A2 13 Dec 1990
AI WO 90-US3134 1 Jun 1990
PY 1990
AB The title viral particles are manufd. by expressing .gtoreq.2 viral genes, e.g. from human (simian) immunodeficiency virus, in mammalian cells using recombinant viral vectors such as vaccinia virus. Plasmids contg. .gtoreq.2 human or simian immunodeficiency virus genes were constructed and introduced into monkey Bsc-40 or human hu143TK- cell lines infected with vaccinia virus for in vivo recombination. Recombinant vaccinia virus Vabt252, Vabt271, Vabt253, Vabt264, Vabt344, Vabt141, and Vabt277 were obtained. Expression of the immunodeficiency virus genes was detd. by the black plaque assay. All the recombinant vaccinia virus-infected cells produced the proteins, and the cells producing the gag or gag and env proteins formed enveloped retroviral particles as detd. by electron microscopy.

L5 ANSWER 2 OF 27
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AN CA114(23):222820d
TI Generation of hybrid genes and proteins by virus-mediated recombination and their use as vaccines
SO PCT Int. Appl., 74 pp.
AU Gritz, Linda R.; Panicali, Dennis L.
PI WO 9012880 A1 1 Nov 1990
AI WO 90-US2060 17 Apr 1990
PY 1990
AB A method of generating a virus contg. a hybrid DNA sequence comprises (1) providing a virus contg. >2 tandemly arranged DNA sequences, the sequences being non-identical but homologous and (2) allowing the virus to replicate to produce progeny viruses contg. a hybrid DNA sequence comprising portions of each parental DNA sequence, via intramol. recombination between the homologous region. The method can be used for generating a recombinant virus (e.g. pox virus) contg. a hybrid gene that encodes a hybrid antigen of a pathogen (e.g. an animal virus or a parasite) to be used as a vaccine against the pathogen that exhibits antigenic variation. Construction of recombinant vaccinia viruses contg. env gene variants of HIV-1 strains RF and BH10 was demonstrated.

L5 ANSWER 3 OF 27
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AN CA114(15):137310t
TI Expression of Mycobacterium tuberculosis and Mycobacterium leprae proteins by vaccinia virus
SO Infect. Immun., 58(12), 4089-98
AU Lyons, Janet; Sinos, Christos; Destree, Antonia; Caiazzo, Terri; Havican, Kelly; McKenzie, Sara; Panicali, Dennis; Mahr, Anna
PY 1990
AB Eight m. tuberculosis and M. leprae genes were inserted into the vaccinia virus genome by in vivo recombination. The resulting virus

proteins (71, 65, 35, 19, and 12 kDa) and three M. leprae proteins (65 and 18 kDa and a biotin-binding protein) by Western immunoblot anal., radioimmunopptn., or black-plaque assay. When injected into BALB/c mice, the recombinants expressing the M. tuberculosis 71-, 65-, or 35-kDa protein and the M. leprae 65-kDa protein or the biotin-binding protein elicited antibodies against the appropriate M. tuberculosis or M. leprae protein. These vaccinia virus recombinants are being tested for the ability to elicit immune protection against M. tuberculosis or M. leprae challenge in animal model systems. The recombinants are also useful in generating target cells for assays aimed at elucidating the cellular immune responses to mycobacterial proteins in leprosy and tuberculosis. Furthermore, the M. tuberculosis 65-kDa protein and four of the other mycobacterial proteins share homol. with known eukaryotic and prokaryotic stress proteins, some of which may play a role in autoimmunity.

L5 ANSWER 4 OF 27


AN CA114(7):56838u
TI Generation of hybrid genes and proteins by vaccinia virus-mediated recombination: application to human immunodeficiency virus type 1 env
SO J. Virol., 64(12), 5948-57
AU Gritz, Linda; Destree, Antonia; Cormier, Nancy; Day, Eric; Stallard, Virginia; Caiazzo, Teresa; Mazzara, Gail; Panicali, Dennis
PY 1990
AB The ability of poxviruses to undergo intramol. recombination within tandemly arranged homologous sequences can be used to generate chimeric genes and proteins. Genes contg. regions of nucleotide homol. will recombine to yield a single sequence composed of portions of both original genes. A recombinant virus contg. 2 genes with a no. of conserved regions will yield a population of recombinant viruses contg. a spectrum of hybrid sequences derived by recombination between the original genes. This scheme has been used to generate hybrid human immunodeficiency virus type 1 env genes. Recombinant vaccinia viruses that contain 2 divergent env genes in tandem array have been constructed. In the absence of selective pressure to maintain both genes, recombination between conserved homologous regions in these genes generated a wide range of progeny, each of which expressed a novel variant polypeptide encoded by the newly created hybrid env gene. Poxvirus-mediated recombination may be applied to map type-specific epitopes, to create novel pharmaceuticals such as hybrid interferons, to study receptor-binding or enzyme substrate specificities, or to mimic the antigenic diversity found in numerous pathogens.

L5 ANSWER 5 OF 27


AN CA113(19):166893v
TI Recombinant fowlpox virus for vaccination of poultry
SO PCT Int. Appl., 75 pp.
AU Cohen, Lawrence Kenneth; Panicali, Dennis L.
PI WO 9002191 A1 8 Mar 1990
AI WO 89-US3701 25 Aug 1989
PY 1990
AB Recombinant fowlpox viruses (FPVs) contg. heterologous DNA in a region which does not substantially reduce the immunogenicity of the recombinant virus in a host animal are prepd. These viruses may be used as vaccines (no data). FPV promoters C1 and C were identified and sequenced. Plasmid to facilitate the prepn. viral recombinants at the BglII site of the FPV BamHI J fragment were

promoter linked to the [illegible]Z gene within the FPV J [illegible]gment. Vectors contg. the spike protein gene of avian infections [illegible]nchitis virus or the GX 3262 antigen gene of Eimeria tenella were prepd. from these plasmids and used to produce recombinant fowlpox viruses FPV 59-5 and FPV 71, resp.

L5 ANSWER 6 OF 27


AN CA113(9):76071w
TI Gag-specific cytotoxic T lymphocytes in SIVmac-infected rhesus monkeys
SO Vaccines 90: Mod. Approaches New Vaccines Incl. Prev. AIDS, [Conf.], 7th, Meeting Date 1989, 219-23. Edited by: Brown, Fred. Cold Spring Harbor Lab.: Cold Spring Harbor, N. Y.
AU Letvin, Norman L.; Miller, Micheal D.; Yamamoto, Hiroshi; Mazzara, Gail P.; Stallard, Virginia; Panicali, Dennis L.
PY 1990
AB CD8+ CTLs inhibit the replication of HIV and SIVmac in PBLs and therefore are likely to play an important role in contg. the spread of the AIDS virus in infected individuals. The present study shows that CD8+CD16-NKH1- PBLs of some SIVmac-infected rhesus monkeys lyse MHC class-I-matched B-LCLs infected with a recombinant vaccinia virus that expresses the SIVmac gag gene. Also, a series of gag-specific lytic T-lymphocyte clones were generated from PBLs of a SIVmac-infected rhesus monkey. These T-cell clones are CD3+CD8+ and are MHC class-I-restricted in their target specificity. The gag-specific lytic activity was specific for a single amino acid fragment of the SIVmac gag protein. These findings illustrate a remarkably restricted epitope specificity of this AIDS virus-specific CTL response. Finally, in a limited prospective study of SIVmac-infected rhesus monkeys, the presence of the SIVmac gag-specific CTL activity in PBLs correlated with both a reduced efficiency in isolating SIVmac from PBLs of these monkeys and their extended survival.

L5 ANSWER 7 OF 27


AN CA113(7):53703q
TI Recombinant poxviruses as live vaccines against immunodeficiency viruses
SO PCT Int. Appl., 89 pp.
AU Gritz, Linda R.; Stallard, Virginia; Panicali, Dennis L.
PI WO 8912095 A1 14 Dec 1989
AI WO 89-US2485 12 Jun 1989
PY 1989
AB Recombinant pox viruses, esp. vaccinia virus, expressing Simian immunodeficiency virus (SIV) genes such as env or the human immunodeficiency virus (HIV) counterpart are prepd. for use as live vaccines against AIDS. A test system using macaque monkeys to test the efficacy of the SIV antigens as an AIDS vaccine is also described. SIV genes are introduced into the vaccinia virus by in vivo site-specific recombination. Plasmid pAbT4577 contg. SIV env and gag-prot genes expressed from the 30 K and 40 K promoters, resp. and the 29 K gene of vaccinia virus was constructed and transfected into BSC-40 cells that had been infected with a 29 K gene-defective vaccinia virus contg. a lacZ gene as marker for in vivo recombination. The recombinant virus VAbT198 was selected on the basis of expression of the 29 K gene, i.e. the recombinant virus can successfully grown in RK13 cells, and the loss of the lacZ gene. By screening with black plaque and immunopptn. assays, the recombinant virus vAbT198 expressing the env and gag-prot genes was obtained, and mice immunized with vAbT198 produced antisera that neutralized SIV efficiently

L5 ANSWER 8 OF 27


AN CA113(1):4525z
TI Equine herpesvirus-1 vaccine
SO PCT Int. Appl., 71 pp.
AU Mazzara, Gail P.; Jensen, Elizabeth Marie; Panicali, Dennis L.
PI WO 9001546 A1 22 Feb 1990
AI WO 89-US3362 3 Aug 1989
PY 1990
AB Recombinant pox viruses (vaccinia) which express antigens of equine herpesvirus-1 (EHV-1) (envelope glycoproteins gB and/or gH) are claimed. The recombinant pox virus can be used to vaccinate horses and other animals against EHV-1 infection. Thus, restriction enzyme fragments from EHV-1 DNA were cloned, and the EHHV-1 gene homologous to HSV-1 gB was mapped. A monovalent in vivo recombination (IVR) vector contg. the EHV-1 gene encoding the glycoprotein gB homolog under control of the vaccinia 40 K promoter was prepd. A monovalent IVR vector contg. the glycoprotein gH homolog gene under control of the vaccinia 7.5 K promoter was also prepd., and an IVR vector contg. the 40 K vaccinia promoter for the insertion of foreign genes into the HindIII M region of vaccinia virus was constructed. A divalent IVR vector contg. gB and gH genes was also prepd. Finally, recombinant vaccinia viruses were constructed contg. EHV-1 glycoprotein genes under the control of vaccinia promoters. Black-plaque anal. showed that vaccinia recombinants vAbT243 and vAbT249 strongly express EHV-1 antigens. Injections of RK13 cells with vAbT243 (contg. the gB gene) yielded a no. of proteins pptd. by polyclonal antiserum to total EHV-1. Immunization of mice with recombinant vaccinia viruses yielded antisera that were able to neutralize EHV-1 infectivity in vitro.

L5 ANSWER 9 OF 27


AN CA111(24):219260d
TI Immunization against tumor-specific antigens using poxvirus expression vectors
SO PCT Int. Appl., 46 pp.
AU Panicali, Dennis L.; Bernards, Rene
PI WO 8901973 A1 9 Mar 1989
AI WO 88-US3032 1 Sep 1988
PY 1989
AB Attenuated pox-virus vectors expressing genes for tumor-specific antigens from an expression cassette cloned into a region of dispensable functions on the viral genome are constructed. These expression vectors can be used to inoculate animals and produce an immune response to the tumor-specific antigens expressed by these vectors. The rat neu cellular oncogene was cloned in a vaccinia expression vector and expressed in infected CV-1 cells. When the virus was injected into mice there was a strong immune response to the neu gene product in certain strains. The responding mice vigorously rejected transformed NIH3T3 cells expressing the neu gene. Injection of rats with the same expression vector failed to stimulate a humoral response.

L5 ANSWER 10 OF 27


AN CA110(11):93340p
TI Antigenic specificity of antibody-dependent cell-mediated cytotoxicity directed against human immunodeficiency virus in antibody-positive sera
SO J. Virol., 63(2), 584-9
Allan, Richard A.; Sullivan, John L.; Lavina, Peter H.; Brewster

PY 1989
AB Antibody-dependent cell-mediated cytotoxicity (ADCC) specific for human immunodeficiency virus (HIV) has been described for HIV-infected individuals. To det. the antigenic specificity of this immune response and to define its relationship to the disease state, an ADCC assay was developed using Epstein-Barr virus-transformed lymphoblastoid cell line targets infected with vaccinia virus vectors expressing HIV proteins. The vaccinia virus vectors induced appropriate HIV proteins (envelope glycoproteins gp160, gp120, and gp41 or gag proteins p55, p40, p24, and p17) in infected lymphoblastoid cell lines as demonstrated by radioimmunopptn. and syncytia formation with c8166 cells. Killer cell-mediated, HIV-specific ADCC was found in sera from HIV-seropos. but not HIV-seroneg. hemophiliacs. This HIV-specific response was directed against envelope glycoprotein but was completely absent against target cells expressing the HIV gag proteins. The ADCC directed against gp160 was present at serum dilns. up to 1/316,000. There was no correlation between serum ADCC titer and the stage of HIV-related illness as detd. by T-helper-cell nos. These expts. clearly implicated gp160 as the target antigen of HIV-specific ADCC activity following natural infection. Vaccines which stimulate antibodies directed against gp160, which are capable of mediating ADCC against infected cells, could be important for protection against infection by cell-assocd. virus.

L5 ANSWER 11 OF 27


AN CA109(9):68206w
TI Preparation and use of recombinant vaccinia viruses for expression of protein genes in animals, e.g. for immunization
SO U.S., 48 pp. Cont.-in-part of U.S. 4,603,112.
AU Paoletti, Enzo; Panicali, Dennis
PI US 4722848 A 2 Feb 1988
AI US 84-622135 19 Jun 1984
PY 1988
AB A method for producing a protein in an animal comprises inoculating the animal with a recombinant vaccinia virus contg. a protein-encoding gene in a nonessential part of the viral genome. If the gene encodes an antigen, the recombinant virus acts as a vaccine. The gene encoding herpes simplex virus (HSV) glycoprotein D was inserted into the BamHI site of the PstI F fragment of vaccinia virus contained in a plasmid. Recombinant virus vP60 was prepd. by in vivo recombination of tk TS13 cells between this plasma and a tk- vaccinia virus. Nya:NYLAR mice were inoculated i.p. with 4.5 x 107 pfu (plaque-forming units) of the wild-type or recombinant virus or with buffered saline soln. After 3 wks they were challenged with an i.p. inoculation of 2.4 x 104 pfu infectious HSV type 1 (AA strain). All of the mice inoculated with the recombinant virus survived; only 30-45% of the controls survived.

L5 ANSWER 12 OF 27


AN CA109(7):49608n
TI Preparation and use of recombinant poxvirus vaccines for mycobacteria
SO PCT Int. Appl., 89 pp.
AU Panicali, Dennis L.; Skarnes, William C.; Mahr, Anna M.
PI WO 8802027 A1 24 Mar 1988
AI WO 87-US2245 4 Sep 1987
PY 1988
AB Recombinant vaccinia virus contg. Mycobacterium leprae or M. tuberculosis 65K antigen gene or M. leprae 12K antigen gene are

the M. leprae 65 kilodalton antigen gene and the lacZ gene linked to the vaccinia BamF promoter flanked by vaccinia thymidine kinase gene DNA was constructed. CV-1 cells infected with vaccinia virus were transfected with this plasmid in order to prep. recombinant vaccinia virus vAbT86. Mice inoculated with this virus raised antibodies to the tuberculosis antigen.

L5 ANSWER 13 OF 27


AN CA109(3):18191s
TI Construction of plasmids for production of recombinant pox virus for use as vaccines against pseudorobies virus
SO Eur. Pat. Appl., 46 pp.
AU Panicali, Dennis L.; Gritz, Linda R.; Mazzara, Gail P.
PI EP 261940 A2 30 Mar 1988
AI EP 87-308390 22 Sep 1987
PY 1988
AB Monovalent and multivalent recombinant pox viruses producing immunogenic proteins of pseudorabies viruses are provided for use as live vaccines. Plasmid pAbT503 was constructed contg. the pseudorabies virus glycoprotein gp50 and gIII genes under the control of the vaccinia 7.5K and 30K promoters, resp. The plasmid was introduced into vaccinia virus NYCBH for in vivo homologous recombination via the thymidine kinase gene. The resultant recombinant virus vAbT78A produced both glycoproteins. One hundred % of the immunized mice survived challenge with infectious pseudorabies virus.

L5 ANSWER 14 OF 27


AN CA108(15):125497x
TI Delineation of the viral products of recombination in vaccinia virus-infected cells
SO J. Virol., 62(3), 1046-54
AU Spyropoulos, Demetri D.; Roberts, Bryan E.; Panicali, Dennis L.; Cohen, Lawrence K.
PY 1988
AB Plasmids contg. the vaccinia virus thymidine kinase gene, its flanking DNA sequences, and the Escherichia coli .beta.-galactosidase gene were used in conjunction with a thymidine kinase-deficient virus to examine the viral products of recombination. Progeny derived from single-crossover events could be distinguished from those generated by gene conversion of double-crossover events when the .beta.-galactosidase gene was sepd. from the thymidine kinase gene by the flanking sequences. Using methotrexate to select for recombinant virus and a chromogenic indicator to detect .beta.-galactosidase, the generation of viral recombinants was measured over a 48-h period. Recombinant progeny were first obsd. at 12 h and increased to a max. of 2.5% at 48 h. Single-crossover products, as detd. by .beta.-galactosidase expression, reached a max. of 57% of the recombinant population at 24 h and thereafter declined. DNA hybridization anal. was used to examine genomic structures of the progeny of the initial viral plaques, plaques purified 3 times, and those subject to a 104-fold amplification. Thus, single-crossover events within either the 5'- or 3'-homologous flanking sequences generated unstable recombinant structures. These structures were shown to contain a single copy of the intact thymidine kinase gene within the corresponding copy of the duplicated thymidine kinase flanking sequences, sepd. by the .beta.-galactosidase gene and plasmid DNA. Significantly, these duplicated structures could undergo further recombination to produce repeats of either the intact or the deleted thymidine kinase

wild-type genome. The wild-type genome was also shown to be generated directly by gene conversion or double-crossover events.

L5 ANSWER 15 OF 27
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AN CA108(3):20173k
TI Effective tumor immunotherapy directed against an oncogene-encoded product using a vaccinia virus vector
SO Proc. Natl. Acad. Sci. U. S. A., 84(19), 6854-8
AU Bernards, Rene; Destree, Antoinette; McKenzie, Sara; Gordon, Ethel; Weinberg, Robert A.; Panicali, Dennis
PY 1987
AB A vaccinia virus recombinant was constructed that expresses the extracellular domain of the rat neu oncogene-encoded protein, a 185-kilodalton transmembrane glycoprotein termed p185. Strain NFS mice immunized with this recombinant virus developed a strong antibody response against the neu oncogene product and were fully protected against subsequent tumor challenge with neu-transformed NIH 3T3 cells. No tumor immunoprotection was found when recombinant virus-immunized mice were challenged with Ha-ras-transformed NIH 3T3 cells. Thus, immunization with a single oncogene-encoded antigen can fully and specifically protect animals against tumor cells bearing this antigen.

L5 ANSWER 16 OF 27
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AN CA107(21):191990h
TI Transient expression system to measure the efficiency of vaccinia promoter regions
SO Plasmid, 18(1), 16-23
AU Shepard, Barbara; Panicali, Dennis; Huang, Cinnia
PY 1987
AB A transient expression system has been developed to compare the relative efficiency of expression of various vaccinia virus DNA sequences contg. transcriptional regulatory elements. A plasmid vector was constructed contg. both the Escherichia coli galactokinase gene (galK) and the guanine phosphoribosyltransferase gene (gpt). To direct the expression of gpt within this vector, a vaccinia virus promoter region was isolated from the HindIII-F fragment of the genome and inserted 5' to gpt coding sequence. Four unique cloning sites in front of galK allow simple and precise fusion of various vaccinia virus DNA fragments that contain the regulatory site of interest to galK. Sequences contg. promoter regions were ligated to the coding segment of the galK to create 4 recombinant plasmids, which were introduced into vaccinia virus-infected cells by transfection. Both galK and gpt were thus expressed under the control of vaccinia virus transcriptional units, and the enzymic activities were measured in the same cell ext. with a filter-binding assay. The major advantage of this transient expression system is that the variations in galK expression are always measured relative to the internal gpt std. Changes in the galK/gpt ratio resulting from different vaccinia promoters of galK are thus a quant. measurement of promoter strength.

L5 ANSWER 17 OF 27
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AN CA106(19):150648p
TI Vaccinia virus vectors utilizing the .beta.-galactosidase assay for rapid selection of recombinant viruses and measurement of gene expression
SO Gene, 47(2-3), 193-9
AU Panicali, Dennis; Grzelecki, Alex; Huang, Cinnia

AB Plasmids were constructed by fusing vaccinia transcriptional regulatory sequences (promoters) to the lacZ gene of Escherichia coli. These recombinant plasmids were used to compare relative promoter strengths in transient expression assays and to construct recombinant vaccinia viruses producing .beta.-galactosidase (.beta.Gal) [9031-11-2]. Viruses synthesizing .beta.Gal were detd. by utilizing the chromogenic substrate, 5-bromo-4-chloro-3-indoyl-.beta.-D-galactoside to form blue plaques. A recombinant virus producing .beta.Gal was then used to select a second recombinant virus. This was accomplished via in vivo recombination replacing the lacZ gene with a sequence coding for the gp85 protein of Friend murine leukemia virus. The recombinant virus was selected by its inability to form blue plaques under appropriate conditions.

L5 ANSWER 18 OF 27


AN CA105(15):128470g
TI Insertion and deletion mutants of vaccinia virus
SO Virology, 152(2), 285-97
AU Perkus, Marion E.; Panicali, Dennis; Mercer, Susan; Paoletti, Enzo
PY 1986
AB Thirteen viable insertion mutants of vaccinia virus were constructed. These mutants, contg. coding sequences of the herpes simplex virus thymidine kinase (HSV-TK) [9002-06-6] gene, were generated by marker transfer via in vivo recombination. The mutants were identified using a replica filter plating technique by in situ hybridization using 32P-nick translated HSV-TK sequences and obtained as pure cultures by repeated plaque purifn. Some of these insertion mutants were in turn used as substrates to generate viable deletion mutants of vaccinia virus in the presence of 5'-bromodeoxyuridine. An example of this approach resulting in a vaccinia virus deleted of .apprx.1.5 kb of nonessential DNA is presented. Furthermore, the anal. of spontaneously occurring viable deletion mutants of vaccinia lacking .apprx.21.4 kb of nonessential DNA is described.

L5 ANSWER 19 OF 27


AN CA101(15):124127v
TI Construction of live recombinant vaccines using genetically engineered poxviruses
SO Mod. Approaches Vaccines: Mol. Chem. Basis Virus Virulence Immunogenicity, [Pap. Conf.], Meeting Date 1983, 295-9. Edited by: Chanock, Robert M.; Lerner, Richard Alan. Cold Spring Harbor Lab.: Cold Spring Harbor, N. Y.
AU Paoletti, Enzo; Panicali, Dennis; Lipinskas, Bernard R.; Mercer, Susan; Wright, Marilyn; Samsonoff, Carol
PY 1984
AB Recombinant vaccinia viruses have been constructed that express the genes encoding influenza hemagglutinin (HA), hepatitis B virus surface antigen (HBsAg), and herpes simplex virus glycoprotein. Each of these recombinant vaccinia viruses elicited antibodies to the product of the foreign gene carried within the vaccinia DNA. Examples of potential live recombinant vaccines utilizing genetically engineered vaccinia viruses and directed against respiratory, enteric, and neurotropic and dermotropic infectious agents are presented. One of these recombinants was used to demonstrate protection of mice against a lethal challenge with infectious HSV, which demonstrates the feasibility of immunizing against a heterologous agent with a live recombinant poxvirus. Apparently, many, if not all, infectious disease processes, whether they be viral, bacterial, or parasitic might be amenable to control

universal app. ocen ...

L5 ANSWER 20 OF 27
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AN CA100(13):97607x
TI Construction of live vaccines using genetically engineered poxviruses: biological activity of vaccinia virus recombinants expressing the hepatitis B virus surface antigen and the herpes simplex virus glycoprotein D
SO Proc. Natl. Acad. Sci. U. S. A., 81(1), 193-7
AU Paoletti, Enzo; Lipinskas, Bernard R.; Samsonoff, Carol; Mercer, Susan; Panicali, Dennis
PY 1984
AB Potential live vaccines using recombinant vaccinia viruses were constructed for both hepatitis B and herpes simplex. These recombinant vaccinia viruses express cloned genes of the hepatitis B virus surface antigen (HBsAg) or glycoprotein D from herpes simplex virus (HSV-gD). The HBsAg synthesized in vitro under the regulation of vaccinia virus is secreted from infected cells as a particle of .apprx.22 nm diam. with a d. of 1.2 g/mL as detd. on CsCl gradients. Inoculation of rabbits with the recombinant vaccinia virus that expresses the HBsAg elicits the prodn. of high-titered antibodies. Synthesis of the HSV-gD was detected in tissue culture by radioimmunoassay on unfixed cells, suggesting that the HSV-gD synthesized by the recombinant vaccinia virus is membrane assocd. Inoculation of rabbits with the recombinant vaccinia virus expressing HSV-gD resulted in the prodn. of antibodies that reacted with authentic HSV-gD as detected by radioimmunoassay. The antiserum was shown by plaque-redn. assay to neutralize infectivity of herpes simplex virus. Immunization of mice with the vaccinia recombinant expressing HSV-gD gave complete protection on subsequent challenge with LDs of live herpes simplex virus.

L5 ANSWER 21 OF 27
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AN CA99(21):170625u
TI Modified vaccinia virus and its use
SO Eur. Pat. Appl., 175 pp.
AU Paoletti, Enzo; Panicali, Dennis
PI EP 83286 A2 6 Jul 1983
AI EP 82-402380 23 Dec 1982
PY 1983
AB The construction of recombinant cloning vectors by the introduction of exogenous DNA into the vaccinia virus genome, recombinant plasmids and modified microorganisms involved in the construction, and methods for the infection of cells and host animals with vaccinia mutants to result in amplification of exogenous DNA and exogenous protein (including antigen protein) formation are described. Thus, the HindIII F-DNA fragment of vaccinia, which contains nonessential portions of the genome, was isolated and ligated to HindIII-cleaved plasmid pBR322 DNA to yield plasmid pDP3 after transformation of Escherichia coli HB101. Recombinant plasmids useful for the insertion of the herpes simplex virus (HSV) 2.3-megadalton (Mdal) BamHI fragment contg. the thymidine kinase (tk), [9002-06-6] gene into vaccinia S or L variants were then prepd. Plasmid pDP3 was cleaved with BamHI; partial cleavage resulted in a mixt. of linear plasmids cut either at the pBR322 or vaccinia BamHI site. The mixed linear plasmids were sepd. from fragments of pDP3 (cut at both the pBR322 and vaccinia BamHI sites) by agarose-gel electrophoresis. The singly cut linear plasmids were then isolated with glass powder. The 2.3-Mdal HSV BamHI tk fragment was prepd. by digestion of a pBR322-derived recombinant plasmid. Linearized pDP3 DNA was ligated to the tk gene-contg. fragment, and

used to transform E. coli HB101 to

colonies were identified that had a tk gene contg. a BamHI fragment inserted within pDP3. Two of these plasmids, pDP132 and pDP137, were chosen for further study. Plasmids pDP132 and pDP137 were recombined with DNA of the S variant of vaccinia in vivo (in CV-1 cells). Approx. 0.5% of the plaques examd. by hybridization contained HSV tk DNA. Recombination in other cell lines, the isolation of tk-neg. S variant vaccinia, marker rescue of L variant vaccinia DNA by the S variant, the expression of HSV tk by recombinant vaccinia, and the selection of recombinant vaccinia with hypoxanthine-aminopterin-thymidine medium or [125I]iododeoxycytidine are described. Vaccinia recombinants contg. the hemagglutinin gene of influenza A virus, the genes for glycoproteins gA and gB of HSV, or the gene for the surface antigen of hepatitis B virus were constructed by in vivo recombination. Influenza A virus hemagglutinin encoded by vaccinia VP9 was expressed in rabbits, and neutralizing antibodies to the hemagglutinin were produced.

L5 ANSWER 22 OF 27


AN CA99(17):134729x
TI Construction of live vaccines by using genetically engineered poxviruses: Biological activity of recombinant vaccinia virus expressing influenza virus hemagglutinin
SO Proc. Natl. Acad. Sci. U. S. A., 80(17), 5364-8
AU Panicali, Dennis; Davis, Stephen W.; Weinberg, Randall L.; Paoletti, Enzo
PY 1983
AB Recombinant vaccinia viruses contg. the cloned hemagglutinin (HA) gene from influenza virus were constructed. The biol. activity of these poxvirus vectors was demonstrated both in vitro and in vivo. Expression of HA in cells infected with recombinant vaccinia was detected by using specific anti-HA antiserum and 125I-labeled protein A, showing that HA synthesized under the regulation of vaccinia virus was antigenic. Immunization of rabbits with these recombinant poxviruses resulted in the prodn. of antibodies reactive with authentic influenza HA as detected by radioimmunoassay, by inhibition of HA erythrocyte agglutination, and by neutralization of influenza virus infectivity. The prodn. of antibodies directed against influenza HA suggested that the HA gene expressed in vaccinia is immunogenic. Thus, genetically engineered poxviruses have the potential for use as generic live vaccine vehicles that have both human and veterinary applications.

L5 ANSWER 23 OF 27


AN CA97(17):139625d
TI Construction of poxviruses as cloning vectors: insertion of the thymidine kinase gene from herpes simplex virus into the DNA of infectious vaccinia virus
SO Proc. Natl. Acad. Sci. U. S. A., 79(16), 4927-31
AU Panicali, Dennis; Paoletti, Enzo
PY 1982
AB Recombinant vaccinia viruses contg. the thymidine kinase [9002-06-6] gene from herpes simplex virus were constructed. The gene was inserted into the genome of a variant of vaccinia virus that had undergone spontaneous deletion as well as into the 120-megadalton genome of the large prototypic vaccinia variant. This was accomplished via in vivo recombination by cotransfection of eukaryotic tissue culture cells with cloned BamHI-digested thymidine kinase gene from herpes simplex virus contg. flanking vaccinia virus DNA sequences and infectious rescuing vaccinia virus DNAs. Pure populations of the recombinant viruses were obtained by replica

as an insert in vacci[illegible]a virus, was transcribed [illegible]vivo and in vitro, and the fidelity of in vivo transcription into a functional gene product was detected by the phosphorylation of 5-[125I]iodo-2'-deoxycytidine.

L5 ANSWER 24 OF 27


AN CA96(25):211716h
TI Analysis of vaccinia virus transcriptional complexity in vitro and in vivo: characterization of RNase T1-resistant 5'-terminal oligonucleotides
SO J. Virol., 42(2), 734-41
AU Whitkop, Carol; Lipinskas, Bernard R.; Mercer, Susan; Panicali, Dennis; Paoletti, Enzo
PY 1982
AB Vaccinia virus mRNAs synthesized in vitro and in vivo, polyadenylated leader sequences synthesized in vitro in the absence of added GTP, CTP, or UTP or in the presence of 20 .mu.g actinomycin D/mL, and high-mol.-wt. RNA synthesized in vitro under limiting ATP concns. were labeled specifically in the cap structure with [.alpha.-32P]GTP and vaccinia-sol. enzyme exts. The complexity of RNase T1-resistant 5'-terminal oligonucleotides was examd. by 2-dimensional polyacrylamide gel electrophoresis. Approx. 190 unique T1-resistant 5'-terminal oligonucleotides were obsd. from vaccinia virus 8-12 S RNA synthesized in vitro. A somewhat greater complexity was obsd. with polyadenylated leader sequences and actinomycin D RNAs: unique T1-resistant oligonucleotides contained .apprx.210-280 5'-terminal fragments. On a composite fingerprint of the above RNAs, >300 identifiable unique T1-resistant 5'-terminal oligonucleotides were obsd. Significantly, .apprx.300 T1-resistant fragments were derived from RNA sedimenting faster than 18 S on denaturing sucrose gradients. Anal. of vaccinia RNAs synthesized in vivo in the absence of either de novo protein synthesis or DNA replication or in the presence of actinomycin D gave essentially similar profiles of 5'-terminal T1-resistant oligonucleotide fingerprints consisting of .apprx.200 fragments. Anal. of the 5'-terminal T1-resistant oligonucleotides of vaccinia RNAs present after DNA replication showed essentially the same pattern of early T1-fragments, albeit in reduced amts., but in addn. revealed a complex pattern of T1-resistant oligonucleotides unique to this class of vaccinia RNA.

L5 ANSWER 25 OF 27


AN CA96(19):156526u
TI Molecular genetics of vaccinia virus: Demonstration of marker rescue
SO Proc. Natl. Acad. Sci. U. S. A., 79(5), 1593-6
AU Nakano, Eileen; Panicali, Dennis; Paoletti, Enzo
PY 1982
AB Two genomic variants of vaccinia virus isolated from serially propagated stocks were used to demonstrate marker rescue. The smaller (S variant) virus contains a 6.3-megadalton (MDal) deletion of unique DNA sequence present in the 123-MDal larger (L variant) virus. The deletion was mapped at 6.85 MDal from the left terminus of the genome, just outside of the inverted terminal repetion. Rescue of the unique deleted DNA sequences by infectious S variant was obtained in CV-1 cells by using the Ca orthophosphate pptn. technique on intact or restriction endonuclease-treated L-variant DNA. Restriction fragments that overlapped the deletion allowed marker rescue, but restriction of the L-variant DNA within the unique deleted sequences gave neg. results. Restriction

gave a restriction pattern identical to that of L-variant virus, indicating that the donor DNA was inserted into the rescuing virus by double recombination. No amplification of the unique sequences from intact L-variant DNA was obsd. in the absence of infectious S-variant virus, suggesting that deproteinized vaccinia DNA is noninfectious, and that the donor DNA was neither integrated into the host DNA nor present as an episomal structure. When 1 .mu.g of intact L-variant DNA was used per CV-1 monolayer in a 6-cm Petri dish, .apprx.1-5% of the plaques contained the L-variant genotype, and the dose-response curve was essentially linear from 0.1 to 2 .mu.g of DNA.

L5 ANSWER 26 OF 27


AN CA94(17):135967g
TI Two major DNA variants present in serially propagated stocks of the WR strain of vaccinia virus
SO J. Virol., 37(3), 1000-10
AU Panicali, Dennis; Davis, Stephen W.; Mercer, Susan R.; Paoletti, Enzo
PY 1981
AB Two major DNA variants were isolated from serially propagated stocks of the WR strain of vaccinia virus. Restriction enzyme mapping of the 2 variants with HindIII, AvaI, XhoI, SstII, and SmaI revealed a 6.3-megadalton (Mdal) deletion in the smaller DNA variant. The deletion was mapped at .apprx.6.8 Mdal in from the left terminus, just beyond the inverted terminal repeat. The addnl. DNA present in the larger variant represented unique viral sequences that were transcribed both in vitro and in vivo. One-step growth curves in HeLa cells revealed no difference in the rate of replication or burst size when progeny were scored on CV-1 monolayers.

L5 ANSWER 27 OF 27


AN CA92(15):124704b
TI Capped and polyadenylated low-molecular-weight RNA synthesized by vaccinia virus in vitro
SO J. Virol., 33(1), 208-19
AU Paoletti, Enzo; Lipinskas, Bernard R.; Panicali, Dennis
PY 1980
AB In the presence of ATP plus 2 other ribonucleoside triphosphates, or in reactions contg. all 4 ribonucleoside triphosphates and actinomycin D, vaccinia virus synthesized in vitro low-mol.-wt. RNA of .apprx.20 to several hundred bases. These RNAs were capped and methylated at the 5' terminus, contained both mGpppGm-and mGpppAm-type cap structures, and were also polyadenylated at the 3' terminus. Hybridization of the RNAs to restriction fragments derived from vaccinia virus DNA indicated much complexity, suggesting the presence of a large no. of promoters throughout the genome. However, sensitivity to pancreatic RNase of the 5' capped end of these RNAs while hybridized to the DNA suggests other possible roles for them in vaccinia virus mRNA biogenesis.

```
=> s [&4 (1) (oncogene?/ab,bi)) not (13 or 15)
          5984 ONCOGENE?/AB
          4815 ONCOGENE?/BI
             4 L4 (L) (ONCOGENE?/AB,BI)
L6           2 (L4 (L) (ONCOGENE?/AB,BI)) NOT (L3 OR L5)

=> d an ti s@ au pi ai py
=> d :caab
```

L6 ANSWER 1 OF 2

AN CA115(6):57154a
TI Recombinant poxvirus for immunization against papillomavirus-caused tumors
SO Fr. Demande, 37 pp.
AU Meneguzzi, Guerrino; Lathe, Richard; Kieny, Marie Paule
PI FR 2643817 A1 7 Sep 1990
AI FR 89-2897 6 Mar 1989
PY 1990
AB Recombinant poxvirus encoding essential regions of papillomavirus structural proteins are described. These vectors can be used to immunize against or treat papillomavirus-caused tumors. Recombinant vaccinia viruses contg. the genes for human papilloma virus 16 proteins E5, E6, or E7 under the control of the 7.5 K promoter were prepd. Female rats were twice vaccinated with one of these recombinant viruses, then injected with rat cells transformed with human papilloma virus 16 and the ras oncogene. The presence of E6 or E7 prevented or retarded appearance of tumors, or slowed their development, in many cases.

=> d .caab 2

L6 ANSWER 2 OF 2


AN CA114(11):99578b
TI Immunization against human papillomavirus type 16 tumor cells with recombinant vaccinia viruses expressing E6 and E7
SO Virology, 181(1), 62-9
AU Meneguzzi, Guerrino; Cerni, Christa; Kieny, Marie Paule; Lathe, Richard
PY 1991
AB Papillomaviruses are etiol. agents of epithelial proliferative disease. In man, neoplastic transformation of the uterine cervix has been linked to infection with specific subtypes of human papillomavirus, particularly types 16 and 18. It was previously reported that live vaccinia virus recombinants expressing early transforming proteins of other tumor viruses can immunize against challenge with cognate tumor cells and this approach was extended to HPV16. Neoplastic transformation by papillomaviruses involves expression of early open reading frames (ORFs) E5, E6, and E7, and here is reported the construction of vaccinia recombinants sep. expressing ORFs E5-E7 of HPV16. Primary rat cell lines cotransformed with HPV16 and an activated ras oncogene were established in order to evaluate the potential of the recombinants to elicit antitumor immunity. Inoculation of rats with vaccinia recombinants expressing E6 or E7 retarded or prevented tumor development in a proportion of animals challenged by s.c. seeding of tumor cells whereas the recombinant expressing E5 was inactive.

=> s [14 and] (recombinant?/ab,bi)) not (13 or 15 or 16)
25987 RECOMBINANT?/AB
12220 RECOMBINANT?/BI
716 L4 (L) (RECOMBINANT?/AB,BI)
L7 693 (L4 (L) (RECOMBINANT?/AB,BI)) NOT (L3 OR L5 OR L6)

=> s l7 and (tumor(1)antigen#)/ab,bi
63074 TUMOR/AB
48174 TUMOR/BI
69633 ANTIGEN#/AB
66366 ANTIGEN#/BI
6722 (TUMOR(L)ANTIGEN#)/AB,BI
L8 10 L7 AND (TUMOR(L)ANTIGEN#)/AB,BI

L8 ANSWER 1 OF 10
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AN CA114(5):40618m
TI Vaccination against tumor cells expressing breast cancer epithelial tumor antigen
SO Proc. Natl. Acad. Sci. U. S. A., 87(23), 9498-502
AU Hareuveni, Mara; Gautier, Claudie; Kieny, Marie Paule; Wreschner, Daniel; Chambon, Pierre; Lathe, Richard
PY 1990
AB Ninety-one percent of breast tumors aberrantly express an epithelial tumor antigen (ETA) identified by monoclonal antibody H23. Vaccinia virus recombinants expressing tumor antigens have considerable promise in the active immunotherapy of cancer, and the authors have evaluated the potential of vaccinia recombinants expressing the secreted (S) and cell-assocd. (transmembrane, T) forms of H23 ETA to elicit immunity to tumor cells expressing ETA. Tumorigenic ras-transformed Fischer rat fibroblast lines FR-S and FR-T, expressing the S or T form of H23 ETA, resp., were constructed for use in challenge expts. Expression of H23 ETA in these lines was confirmed by Western blotting and immunofluorescence. When challenged by s.c. seeding of tumor cells, 97% (FR-S) and 91% (FR-T) of syngeneic Fischer rats rapidly developed tumors that failed to regress. Vaccination with recombinant vaccinia virus expressing ETA-T prior to challenge prevented tumor development in 82% of animals seeded with FR-T cells but in only 61% of animals seeded with FR-S. The vaccinia recombinant expressing the S form was a less effective immunogen, and vaccination protected only 29-30% of animals from developing tumors upon challenge with either FR-S or -T cells. The increased immunogenicity of the recombinant expressing ETA-T was reflected in elevated levels of ETA-reactive antibody in vaccinated animals, confirming that secreted antigens expressed from vaccinia virus are less effective immunogens than their membrane-assocd. counterparts.

=> d .caab 2-10

L8 ANSWER 2 OF 10
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AN CA111(25):230455s
TI Multiple subsets of HIV-specific cytotoxic T lymphocytes in humans and in mice
SO Eur. J. Immunol., 19(9), 1537-44
AU Chenciner, Nicole; Michel, Frederique; Dadaglio, Gilles; Langlade-Demoyen, Pierre; Hoffenbach, Anges; Leroux, Alena; Garcia-Pons, Francisco; Rautmann, Guy; Guy, Bruno; et al.
PY 1989
AB The human immunodeficiency virus type 1 (HIV-1) induces a strong cytotoxic T lymphocyte (CTL) response in humans following infection. HIV-specific CTL can be detected directly in the blood and lungs of infected patients, and can be expanded in vitro by stimulation with autologous HIV-infected lymphoblasts. Furthermore, CTL specific for HIV envelope glycoprotein gp160 have been obtained in mice by immunization with recombinant vaccinia virus (VV) that carry the HIV env gene. Here it is shown that mice also produce strong CTL responses to gag and nef proteins following immunization with VV recombinants, thus providing a convenient model system to study T lymphocyte immunity to defined HIV antigens. To det. the specificity of circulating HIV-immune CTL in humans, a panel of doubly transfected mouse P815 tumor cells was produced which express the human HLA-A2 or HLA-A3 transplantation antigen gene and one HIV-1 gene (env, gag or nef). Using these cells as targets to CTL,

appears to vary in intensity among different individuals. Surprisingly, CTL specific for regulatory, non-structural nef protein appear to be a major constituent of the human immune response to HIV.

L8 ANSWER 3 OF 10
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AN CA110(25):225179e
TI Cyclophosphamide potentiates the antitumor activity of v-p97NY
SO Cell. Immunol., 120(1), 126-31
AU Estin, C. D.; Stevenson, U. S.; Hellstrom, I.; Hellstrom, K. E.
PY 1989
AB Previous work has demonstrated that a recombinant live vaccinia virus-based tumor vaccine, v-p97NY, induces an immune response in mice which can lead to the rejection of transfected lines of mouse melanoma cells expressing the human melanoma antigen p97. That the ability of v-p97NY to induce delayed-type hypersensitivity to p97 was improved if the vaccinated mice were given cyclophosphamide (Cy) on the day of vaccination. Likewise, treatment of vaccinated mice with Cy increased the antitumor activity of vaccination so that tumor colony formation in the lungs was inhibited even when v-p9NY plus Cy was not given until 7 days after i.v. injection of tumor cells.

L8 ANSWER 4 OF 10
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AN CA110(19):166173y
TI Synthetic peptide eliciting T-cell cytotoxicity for AIDS diagnosis, prevention, and treatment
SO U. S. Pat. Appl., 32 pp. Avail. NTIS Order No. PAT-Appl-7-148 692.
AU Berzofsky, J.; Takahashi, H.; Hosmalin, A.; Germain, R.; Moss, B.
PI US 148692 A0 15 Jul 1988
AI US 88-148692 26 Jan 1988
PY 1988
AB A synthetic peptide, Env-K1 (Arg-Ile-Gln-Arg-Gly-Pro-Gly-Arg-Ala-Phe-Val-Thr-Ile-Gly-Lys), or a variant thereof elicits cytotoxicity by T-cells against human immunodeficiency virus (HIV)-infected (antigen-expressing) cells and is useful as a vaccine and a diagnostic and therapeutic agent. Among a no. of synthetic peptides corresponding to amphipathic regions of HIV envelope glycoprotein gp160 tested, only one (Env-K1) could sensitize 51Cr-labeled fibroblast tumor target cells for high levels of specific killing by HIV-specific cytotoxic T-lymphocytes (from mice immunized with recombinant vaccinia virus expressing the HIV gp160 gene). This peptide corresponded to positions 308-322 of gp160, and was active to .gtoreq.0.01 .mu.M. Env-K1 stimulated proliferation of cytotoxic T-lymphocytes specific for the envelope of HIV.

L8 ANSWER 5 OF 10
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AN CA110(9):73528c
TI Use of recombinant vaccinia virus as an approach for cancer immunotherapy
SO UCLA Symp. Mol. Cell. Biol., New Ser., 84(Technol. Adv. Vaccine Dev.), 255-65
AU Hu, Shiu Lok; Estin, Charles D.; Stevenson, Ulrike S.; Sridhar, Pennathur; Plowman, Gregory D.; Hellstrom, Ingegerd; Hellstrom, Karl Erik
PY 1988
AB A recombinant vaccinia virus (v-p97NY) was constructed that expresses a cell surface antigen, p97, which is a tumor-assocd.

cell-mediated immune responses, including delayed-type hypersensitivity to p97. Mice inoculated with v-p97NY showed rejection of transplanted syngeneic tumor cells expressing human p97 antigens.

L8 ANSWER 6 OF 10
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AN CA110(7):52025w
TI Recombinant polyoma-vaccinia viruses: T antigen expression vectors and anti-tumor immunization agents
SO Biochimie, 70(8), 1075-87
AU Clertant, Philippe; Kieny, Marie Paule; Lecocq, Jean Pierre; Guizani, Ikram; Chambon, Pierre; Cuzin, Francois; Lathe, Richard
PY 1988
AB Live vaccinia virus recombinants expressing viral antigens have recently been developed as effective antiviral vaccines. The possibility of extending this approach to specific antitumor immunity was examd. using tumors induced by the polyoma virus (PyV) as a model system. Three recombinant vaccinia viruses, sep. encoding the 3 early proteins of the polyoma virus (large, middle and small tumor (T) antigens) were constructed. Each recombinant efficiently expresses the appropriate T antigen, which exhibits biochem. properties and subcellular localization of the authentic PyV protein. The potential of the recombinants to elicit immunity towards PyV-induced tumors was assessed in rats by a challenge injection of syngeneic PyV-transformed cells. After prior immunization with the large-T or the middle-T viruses, small tumors developed, which later regressed and were eliminated in more than 50% of the animals. In contrast, the small-T virus failed to elicit tumor rejection. Established tumors could also be eliminated by curative vaccinations. No circulating antibodies directed against PyV large-T or middle-T antigens were detected in animals vaccinate with the large-T or middle-T viruses, suggesting that rejection may be due to a cell-mediated immune response.

L8 ANSWER 7 OF 10
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AN CA110(1):2176a
TI Recombinant, T antigen-encoding viral vectors, and their use in treatment or prevention of tumors
SO Fr. Demande, 22 pp.
AU Lathe, Richard; Kieny, Marie Paule
PI FR 2602790 A1 19 Feb 1988
AI FR 86-11700 13 Aug 1986
PY 1988
AB Recombinant viral vectors contg. a T antigen gene are constructed, and their use in preventing and treating tumors is demonstrated. Three recombinant vaccinia viruses, each capable of expressing 1 of the 3 T antigens, i.e. large, middle, or small T antigen, were prepd. BHK21 cells infected with these viruses produced the proteins which were demonstrated to have the expected subcellular distribution. Of 10 rats immunized with VV.PY.MT, the virus contg. the middle T antigen gene, 6 rejected tumors developed as a result of challenge with polyoma-transformed 3T3 cells. Of 10 rats which had already developed such a tumor and were then vaccinated with this recombinant virus, 2 rejected the tumor.

L8 ANSWER 8 OF 10
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AN CA108(11):88910d
TI Characterization of a recombinant vaccinia virus expressing human

elanoma-associated antigen p97
. Virol., 62(1), 176-80
u, Shiu Lok; Plowma Gregory D.; Sridhar, Penn ur; Stevenson,
lrike S.; Brown, Joseph P.; Estin, Charles D.
988
lycoprotein p97 is a cell surface glycoprotein expressed at high
evels in most human melanomas but present only in trace amts. in
ormal adult tissues. The possibility of using recombinant vaccinia
irus to express a specific tumor-assocd. antigen as a vaccine
gainst human cancer was examd. A recombinant virus, v-p97NY, was
onstructed which contains the entire coding sequence for p97 under
he control of the vaccinia virus 7.5K promoter. Upon infection of
issue culture cells, v-p97NY expressed high levels of a
embrane-bound glycoprotein immunoreactive with a p97-specific
onoclonal antibody. Immunization of mice with this recombinant
licited high-titered antibodies against p97. Spleen cells isolated
rom these mice proliferated in vitro when stimulated either with
urified p97 protein or with syngeneic cells expressing p97 antigen.
elayed-type hypersensitivity was also obsd. in immunized mice after
hallenge with p97-expressing cells. These findings indicate the
otential usefulness of v-p97NY and similar recombinants in tumor
mmunotherapy.

NSWER 9 OF 10
GHT (C) 1991 AMERICAN CHEMICAL SOCIETY

A107(5):37849n
ossible mechanisms by which the H-2Kbm3 mutation may decrease
ytotoxic T-lymphocyte recognition of vesicular stomatitis virus
ucleoprotein antigen
. Virol., 61(6), 1992-8
owman, Michael R.; Lyles, Douglas S.; Parce, J. Wallace
987
pleen cells from C57BL/6 (B6) mice generate a strong in vitro
ytotoxic T-lymphocyte (CTL) response specific for vesicular
tomatitis virus (VSV). Spleen cells from VSV-primed B6-H-2bm3
bm3) mice, which have a mutation in H-2Kb, require approx. 10-fold
ore UV-inactivated VSV to generate in vitro secondary anti-VSV CTL,
ompared with spleen cells from primed B6 mice. Anti-VSV CTL
licited in both bm3 and B6 mice are primarily specific for the
iral nucleocapsid protein (N protein), as demonstrated by using
ecombinant vaccinia viruses that express the VSV N protein. bm3
TL were found to exhibit only a very low level of lytic activity
hen tested against autologous VSV-infected concanavalin A spleen
ell blasts as well as several H-2b tumor cell lines. The weak
nti-VSV response of bm3 CTL was the result of a combination of
nefficient recognition of VSV-infected target cells and decreased
licitation of secondary effector cells. VSV-infected bm3 target
ells were not killed as well as B6 targets by either bm3 or B6
ffectors. This is because of the inefficient recognition of
argets, as demonstrated by the fact that VSV-infected bm3 cells
ere unable to competitively inhibit the lysis of VSV-infected B6
arget cells by either bm3 or B6 effectors. By using cells from
ecombinant mice, it was shown that the CTL response restricted by
-2Kb was low in the bm3 mice, compared with that of the B6 mice.
owever, the H-2Db-restricted CTL activity was similarly low in both
he B6 and bm3 mice. The possibility that the low response to
SV-infected bm3 cells is caused by differences between the bm3 and
6 cells in expression of either viral antigens or H-2K was
nvestigated by radiolabeling and immunopptn. VSV-infected B6 and
m3 cells were found to express equiv. levels in both viral antigens
nd H-2K. Thus, the bm3 mutation alters a functional site on the
-2Kb mol. that is involved in the recognition of VSV-infected
ells. The observation that elicitation of bm3 CTL can occur at
igh antigen doses further suggests that the bm3 mutation results in

ites on the CTC.

NSWER 10 OF 10
GHT (C) 1991 AMERICAN CHEMICAL SOCIETY

A107(1):5527q
umor prevention and rejection with recombinant vaccinia
ature (London), 326(6116), 878-80
athe, R.; Kieny, M. P.; Gerlinger, P.; Clertant, P.; Guizani, I.;
uzin, F.; Chambon, P.
987
he authors examd. whether live vaccinia virus recombinants
xpressing tumor-specific antigen (TSA) in cells of the vaccinated
ost might elicit tumor immunity. Polyoma virus (PY) is tumorigenic
n rodents; because killed PY-transformed cells can elicit tumor
mmunity, a PY-specific TSA has been postulated. Tumorigenesis
nvolves expression of 3 early PY proteins, large-T (LT), middle-T
MT) and small-T (ST), but their roles as TSAs are unclear. The
uthors expressed the 3 T proteins in sep. vaccinia recombinants.
ejection of PY tumors was obsd. in rats immunized with recombinants
xpressing either LT or MT. Further, tumor-bearing animals could be
nduced to reject their tumors by inoculation of recombinants.

14 and (immunogen# or vaccine#)/ab,bi) not (13 or 15 or 16 or 18)
    2381 IMMUNOGEN#/AB
     788 IMMUNOGEN#/BI
    6545 VACCINE#/AB
    6310 VACCINE#/BI
     325 (L4 AND (IMMUNOGEN# OR VACCINE#)/AB,BI) NOT (L3 OR L5 OR L
         6 OR L8)

9 and 17
     263 L9 AND L7

7 (1) (immunogen# or vaccine#)/ab,bi)
ITY OPERATOR LEVEL NOT CONSISTENT WITH
CODE - 'AND' OPERATOR ASSUMED 'L7 (L) '
    2381 IMMUNOGEN#/AB
     788 IMMUNOGEN#/BI
    6545 VACCINE#/AB
    6310 VACCINE#/BI
     270 L7 (L) ((IMMUNOGEN# OR VACCINE#)/AB,BI)

11 and vaccine?/ab,bi
    6558 VACCINE?/AB
    6314 VACCINE?/BI
     265 L11 AND VACCINE?/AB,BI

12 and cancer
 NOT A RECOGNIZED COMMAND

122and cancer/abibi
   23041 CANCER/AB
   25174 CANCER/BI
       3 L12 AND CANCER/AB,BI

in ti so au pi ai py ab 1-3

NSWER 1 OF 3
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A114(5):40618m
accination against tumor cells expressing breast cancer epithelial
umor antigen
roc. Natl. Acad. Sc U. S. A., 87(23), 9498-5

990
inety-one percent of breast tumors aberrantly express an epithelial umor antigen (ETA) identified by monoclonal antibody H23. Vaccinia irus recombinants expressing tumor antigens have considerable romise in the active immunotherapy of cancer, and the authors have valuated the potential of vaccinia recombinants expressing the ecreted (S) and cell-assocd. (transmembrane, T) forms of H23 ETA to licit immunity to tumor cells expressing ETA. Tumorigenic as-transformed Fischer rat fibroblast lines FR-S and FR-T, xpressing the S or T form of H23 ETA, resp., were constructed for se in challenge expts. Expression of H23 ETA in these lines was onfirmed by Western blotting and immunofluorescence. When hallenged by s.c. seeding of tumor cells, 97% (FR-S) and 91% (FR-T) f syngeneic Fischer rats rapidly developed tumors that failed to egress. Vaccination with recombinant vaccinia virus expressing .. TA-T prior to challenge prevented tumor development in 82% of nimals seeded with FR-T cells but in only 61% of animals seeded ith FR-S. The vaccinia recombinant expressing the S form was a ess effective immunogen, and vaccination protected only 29-30% of nimals from developing tumors upon challenge with either FR-S or -T ells. The increased immunogenicity of the recombinant expressing TA-T was reflected in elevated levels of ETA-reactive antibody in accinated animals, confirming that secreted antigens expressed from accinia virus are less effective immunogens than their embrane-assocd. counterparts.

NSWER 2 OF 3
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A110(9):73528c
se of recombinant vaccinia virus as an approach for cancer mmunotherapy
CLA Symp. Mol. Cell. Biol., New Ser., 84(Technol. Adv. Vaccine ev.), 255-65
u, Shiu Lok; Estin, Charles D.; Stevenson, Ulrike S.; Sridhar, ennathur; Plowman, Gregory D.; Hellstrom, Ingegerd; Hellstrom, Karl rik
988
recombinant vaccinia virus (v-p97NY) was constructed that xpresses a cell surface antigen, p97, which is a tumor-assocd. ntigen found at high levels in most human melanomas. Immunization f mice and macaques with v-p97NY elicited both humoral and ell-mediated immune responses, including delayed-type ypersensitivity to p97. Mice inoculated with v-p97NY showed ejection of transplanted syngeneic tumor cells expressing human p97 ntigens.

NSWER 3 OF 3
GHT (C) 1991 AMERICAN CHEMICAL SOCIETY

A108(11):88910d
haracterization of a recombinant vaccinia virus expressing human elanoma-associated antigen p97
. Virol., 62(1), 176-80
u, Shiu Lok; Plowman, Gregory D.; Sridhar, Pennathur; Stevenson, lrike S.; Brown, Joseph P.; Estin, Charles D.
988
lycoprotein p97 is a cell surface glycoprotein expressed at high evels in most human melanomas but present only in trace amts. in ormal adult tissues. The possibility of using recombinant vaccinia irus to express a specific tumor-assocd. antigen as a vaccine gainst human cancer was examd. A recombinant virus, v-p97NY, was onstructed which contains the entire coding sequence for p97 under he control of the vaccinia virus 7.5K promoter. Upon infection of v-p97NY, expressed high levels of a

mbrane-bound glycoprotein immunoreactive with a p97-specific
noclonal antibody. Immunization of mice with this recombinant
icited high-titered antibodies against p97. Spleen cells isolated
om these mice proliferated in vitro when stimulated either with
rified p97 protein or with syngeneic cells expressing p97 antigen.
layed-type hypersensitivity was also obsd. in immunized mice after
allenge with p97-expressing cells. These findings indicate the
tential usefulness of v-p97NY and similar recombinants in tumor
mmunotherapy.

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    File   5:BIOSIS PREVIEWS_69-91/DEC BA9211:BARRM4111
           (C. BIOSIS 1991)
    File 155:MEDLINE _ [redacted]91/DEC (9112W4)
##FILE155: Effective Nov. 1, 1991 there are new prices for TYPEs and
 ##PRINTs.  See HOMEBASE announcement for details.
    File  72:EMBASE (EXCERPTA MEDICA)_85-91/ISS44
           (COPR. ESP BV/EM 1990)
##FILE 72: SEE FILE 73 FOR 1974-PRESENT.  FILES 172,173 NO LONGER EXIST.
TRUNCATE EMTREE CODES (E.G. DC=C1.120?) FOR COMPLETE RETRIEVAL.
    File 357:DERWENT BIOTECHNOLOGY ABS_1982-1991/Nov
           (Copr. 1991 Derwent Pub. Ltd.)
    File 358:CURRENT BIOTECHNOLOGY ABS_1983-91/NOV
           (Copr. 1991 Royal Soc Chem)

      Set   Items   Description
      ---   -----   -----------
?s recombinant(w)(pox?virus? or ?vaccin? or pox)(w)virus?)
          114142  RECOMBINANT
            3775  POXVIRUS?
          143006  VACCIN?
            3622  POX
          487083  VIRUS?
           12314  (VACCIN? OR POX)(W)VIRUS?
      S1     1700  RECOMBINANT(W)(POXVIRUS? OR (VACCIN? OR POX)(W)VIRUS?)
?s s1 (s)(tumor(w)associated(w)antigen?)
          1700  S1
          460716  TUMOR
          756971  ASSOCIATED
          580296  ANTIGEN?
      S2     5  S1 (S)(TUMOR(W)ASSOCIATED(W)ANTIGEN?)
?rd
...completed examining records
      S3     3  RD (unique items)
?t s3/7/1-3

 3/7/1      (Item 1 from file: 5)
6459579      BIOSIS Number: 85060100
  CHARACTERIZATION OF A RECOMBINANT VACCINIA VIRUS EXPRESSING HUMAN
MELANOMA-ASSOCIATED ANTIGEN P97
  HU S-L; PLOWMAN G D; SRIDHAR P; STEVENSON U S; BROWN J P; ESTIN C D
  ONCOGEN, 3005 FIRST AVE., SEATTLE, WASH. 98121.
  J VIROL 62 (1). 1988.  176-180.  CODEN: JOVIA
  Full Journal Title: Journal of Virology
  Language: ENGLISH
  p97 is a cell surface glycoprotein expressed at high levels in most human
melanomas but present only in trace amounts in normal adult tissues. We are
interested in exploring the possibility of using recombinant vaccinia virus
to express a specific tumor-associated antigen as a vaccine against human
cancer. To this end, we constructed a recombinant virus, v-p97NY, which
contains the entire coding sequence for p97 under the control of the
vaccinia virus 7.5K promoter. Upon infection of tissue culture cells,
v-p97NY expressed high levels of a membrane-bound glycoprotein
immunoreactive with a p97-specific monoclonal antibody. Immunization of
mice with this recombinant elicited high-titered antibodies against p97.
Spleen cells isolated from these mice proliferated in vitro when stimulated
either with purified p97 protein or with syngeneic cells expressing p97
antigen. Delayed-type hypersensitivity was also observed in immunized mice
after challenge with p97-expressing cells. These findings indicate the
potential usefulness of v-p97NY and similar recombinants in tumor
immunotherapy.

 3/7/2      (Item 1 from file: 357)
088596  DBA Accession No.: 89-06587     PATENT
Recombinant pox virus expressing tumor-associated antigen - useful as a
    vaccine against tumor formation and for producing monoclonal antibody,
    [illegible] useful in immunotherapy and disease diagnosis; ayoridoma
```

construction
PATENT ASSIGNEE: Appl.Biotechnol.; Whitehead-Inst.Biomed.Res. 1989
PATENT NUMBER: WO 8901973 PATENT DATE: 890309 WPI ACCESSION NO.: 89-085547 (8911)
PRIORITY APPLIC. NO.: US 92036 APPLIC. DATE: 870902
NATIONAL APPLIC. NO.: WO 88US3032 APPLIC. DATE: 880901
LANGUAGE: English
ABSTRACT: A recombinant pox virus capable of expressing in a host a cell-encoded, tumor-associated antigen. The pox virus is preferably vaccinia virus and the tumor-associated antigen is encoded by a human oncogene or proto-oncogene. The tumor-associated antigen is preferably encoded by a human oncogene and is rendered inactive with respect to its oncogenic activity. The tumor antigen is encoded by the neu, ros, trk or kit gene or their fragments. The cell-encoded tumor-associated antigen is a growth factor receptor or a growth factor receptor-like cell surface molecule e.g. encoded by the c-erbB gene. Also new are: (1) vaccinia virus ABT9-4; (2) a method for immunizing against a cell-encoded tumor-associated antigen; (3) a method for producing recombinant cell-encoded tumor-associated antigen; (4) a method for producing antibodies against the antigen; (5) a method for producing a monoclonal antibody which comprises injecting an animal with the recombinant pox virus and fusing antibody-producing cells with immortalized cells to form hybridomas, which are cultured; (6) a method for tumor immunotherapy; and (7) vector plasmid pEVAC-neu. (46pp)

applicant

3/7/3 (Item 2 from file: 357)
082248 DBA Accession No.: 89-00239
Use of recombinant vaccinia virus as an approach to vaccines against AIDS and melanoma - expression of HIV env and gag-pol genes, and melanoma-associated antigen for cancer immunotherapy (conference . abstract)
AUTHOR: Hu S L; Zarling J M; Fultz P N; Eichberg J W; Kinney-Thomas E; Sridhar P
CORPORATE AFFILIATE: Oncogen
CORPORATE SOURCE: Oncogen, Seattle, WA, USA.
JOURNAL: J.Cell.Biochem. (Suppl.12B, 9) (1988) CODEN: 5210J
LANGUAGE: English
ABSTRACT: Recombinant vaccinia virus v-env5 expresses the entire coding sequence of the HIV env gene. Upon infection of tissue culture cells, v-env5 synthesized immunoreactive glycoproteins that corresponded to the precursor (gp160) and the mature envelop glycoproteins (gp120 and gp41) of HIV. Recombinants containing the gag-pol region of HIV synthesized immunoreactive proteins of 55, 40, 24 and 18 kDa, corresponding respectively to the precursor, the processing immediate, and the 2 mature core proteins. The immunogenicity of these recombinants is being studied. The potential of recombinant vaccinia virus as an approach to cancer immunotherapy has also been studied. Infection with a live recombinant vaccinia virus may result in the presentation of tumor-associated antigens in a form favorable for the generation of cell-mediated immunity. Vaccinia virus v-p97 expresses a human melanoma-associated antigen, p97. Both humoral and cell-mediated immunity against p97 were elicited by v-p97 immunization of mice and macaques, and tumor regression was observed in the mice following transplantation of syngeneic tumor cells expressing human p97 antigens. (0 ref)

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?s (s1(s)(associated(w)antigen?)) not s2
          1700  S1
        756971  ASSOCIATED
        580296  ANTIGEN?
             8  S1(S)ASSOCIATED(W)ANTIGEN?
             5  S2
     S4      3  (S1(S)(ASSOCIATED(W)ANTIGEN?)) NOT S2
?rd
...completed examining 3 ords
     S5      3  RD (unique items)
?s s5/7/1-3
```

5/7/1 (Item 1 from file: 5)
6690396 BIOSIS Numb 36020917
RECOMBINANT VACCINIA VIRUS EXPRESSING THE HUMAN MELANOMA-ASSOCIATED ANTIGEN P97 AS A THERAPEUTIC ANTI-TUMOR VACCINE
HU S-L; ESTIN C D; STEVENSON U S; PLOWMAN G D; HELLSTROM I; HELLSTROM K-E
ONCOGEN, SEATTLE, WASH. 98121.
GINSBERG, H., ET AL. (ED.). VACCINES (COLD SPRING HARBOR), 88. NEW CHEMICAL AND GENETIC APPROACHES TO VACCINATION: PREVENTION OF AIDS AND OTHER VIRAL, BACTERIAL AND PARASITIC DISEASES; CONFERENCE, COLD SPRING HARBOR, NEW YORK, USA, SEPTEMBER 9, 1987. XXIII+396P. COLD SPRING HARBOR LABORATORY: COLD SPRING HARBOR, NEW YORK, USA. ILLUS. PAPER. ISBN 0-87969-310-X. 0 (0). 1988. 47-52. CODEN: VMAVE
Language: ENGLISH

5/7/2 (Item 1 from file: 357)
074668 DBA Accession No.: 88-05517
Characterization of a recombinant vaccinia virus expressing human melanoma-associated antigen p97 - for potential use as a human cancer vaccine
AUTHOR: Hu S L; Plowman G D; Sridhar P; Stevenson U S; Brown J P; Estin C D
CORPORATE AFFILIATE: Oncogen
CORPORATE SOURCE: Oncogen, 3005 First Avenue, Seattle, Washington 98121, USA.
JOURNAL: J.Virol. (62, 1, 176-80) 1988 CODEN: JOVIAM
LANGUAGE: English
ABSTRACT: A surface glycoprotein p97 is expressed at high levels in most human myelomas but present only in trace amounts in normal adult tissues. A recombinant vaccinia virus v-p97NY was constructed to contain a chimeric gene in the thymidine-kinase (EC-2.7.1.21) gene. The chimeric gene consisted of the vaccinia virus 7.5K promoter followed by a fragment of a human cDNA clone containing the entire coding sequence for p97 antigen and 33 and 1,323 bp of 5′ and 3′ untranslated sequences. Metabolically labeled proteins from v-p97NY-infected cells were analyzed by immunoprecipitation. A monoclonal antibody against the p97 protein predominantly precipitated a single protein with the same electrophoretic mobility as that of p97 antigens produced by either CHO cells or by human melanoma cell lines. Upon infection of tissue culture cells, v-p97NY expressed high levels of a membrane-bound glycoprotein. The recombinant vaccinia virus may be of use in tumor immunotherapy. /27 ref/

5/7/3 (Item 1 from file: 358)
031150 CBA Acc. No.: 07-06-002565 DOC. TYPE: Patent
Recombinant pox virus for immunization against tumour-associated antigens.
AUTHOR: Panicalli, D. L.; Bernards, R.
CODEN: PIXXD2
PATENT NUMBER: WO 8901973
PATENT APPLICATION: US 092036 (870902)
COMPANY: Applied Biotechnology, USA
PUBLICATION DATE: 9 Mar 1989 (890309) LANGUAGE: English
ABSTRACT: Recombinant pox virus capable of expressing cell-encoded, tumour associated antigens is disclosed. The recombinant viruses are useful for evoking an immune response against the antigen.

```
?s s1(s)oncogene?) nbs (s2 or s4)
          1700  S1
         40998  ONCOGENE?
             3  S1(S)ONCOGENE?
             5  S2
             3  S4
    S6       2  (S1(S)ONCOGENE?) NOT (S2 OR S4)
?t s6/3/1-2
```

6/7/1 (Item 1 from file: 357)
069167 DBA Accession No.: 97-12515

Effective tumor immunotherapy directed against an oncogene-encoded product using a vaccinia virus vector - carrying the rat neu oncogene
AUTHOR: Bernards R; Destree A; McKenzie S; Gordon E; Weinberg R A; Panicali D
CORPORATE AFFILIATE: Appl.Biotechnol.
CORPORATE SOURCE: Whitehead Institute for Biomedical Research, 9 Cambridge Center, Cambridge, MA 02142, USA.
JOURNAL: Proc.Natl.Acad.Sci.U.S.A. (84, 19, 6854-58) 1987 CODEN: PNASA6
LANGUAGE: English
ABSTRACT: A vaccinia virus recombinant which expresses the extracellular domain of the rat neu oncogene-encoded protein, a 185 kDa transmembrane glycoprotein, p185, has been constructed. A cDNA clone of the neu oncogene was adapted for introduction into the vector by removal of sequences specifying the cytoplasmic domain of the protein. The truncated neu cDNA clone, encoding the ectodomain, the transmembrane anchor domain and about 50 amino acid residues of the intracellular domain, was ligated with the Bam-F promoter of vaccinia virus to give pEVAC-neu. This chimeric gene was introduced into vaccinia virus by homologous recombination to give chimeric virus ABT 9-4. The recombinant virus was used to infect CV-1 cells, and after 6 hr, the cells were lyzed and lyzates immunoprecipitated with anti-p185 monoclonal antibody. NFS mice developed a strong antibody response against the neu oncogene and were protected against subsequent tumor challenge with neu-transformed NIH3T3 cells. (24 ref)

6/7/2 (Item 1 from file: 358)
029349 CBA Acc. No.: 07-02-000768 DOC. TYPE: Journal
Recombinant vaccinia virus carrying erb-B-2 oncogene studied for use as anticancer vaccine.
JOURNAL: Biotechnol. Jpn. Newsserv. Volume: 7 Issue: 1 Page(s): 3
CODEN: 000000
COMPANY: Ajinomoto, Japan
PUBLICATION DATE: Nov 1988 (881100) LANGUAGE: English
ABSTRACT: Scientists at Ajinomoto have used recombinant techniques to construct a vaccinia virus carrying the erb-B-2 oncogene. In experiments where breast cancer cells were injected into mice, prior to injection of the vaccinia virus, formation of anti-erb-B-2 antibodies that protected mice from the cancer cells was induced.

```
?s (s1(s)vaccine?) not (s2 or s4 or s6)
          1700  S1
        111820  VACCINE?
           539  S1(S)VACCINE?
             5  S2
             3  S4
             2  S6
      S7    530  (S1(S)VACCINE?) NOT (S2 OR S4 OR S6)
?s s1(w)vaccine?) not (s2 or s4 or s6)
          1700  S1
        111820  VACCINE?
            41  S1(W)VACCINE?
             5  S2
             3  S4
             2  S6
      S8     41  (S1(W)VACCINE?) NOT (S2 OR S4 OR S6)
?rc
...completed examining records
      S9     27  RD (unique items)
?t s9/3/1-27

 9/3/1      (Item 1 from file: 5)
8387563      BIOSIS Number: 41071563
  RESPIRATORY SYNCYTIAL VIRUS F G M2 22K AND N PROTEINS EACH INDUCE
RESISTANCE TO RSV CHALLENGE BUT THE RESISTANCE INDUCED BY THE M2 AND N
PROTEINS IS RELATIVELY SHORT-LIVED
  CONNORS M; COLLINS P L; FIRESTONE C-Y; MURPHY B R
  AR INFECTIOUS DIS, NIAID, NATL INST HEALTH, BETHESDA, MD 20892.
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CHANOCK, R. M., ET AL. (ED.). VACCINES (COLD SPRING HARBOR), VOL. 91. MODERN APPROACHES TO NEW VACCINES INCLUDING PREVENTION OF AIDS; EIGHTH ANNUAL MEETING, COLD SPRING HARBOR, NEW YORK, USA, SEPTEMBER 1990. XXIII+441P. COLD SPRING HARBOR LABORATORY PRESS: COLD SPRING HARBOR, NEW YORK, USA. ILLUS. PAPER. ISBN 0-87969-367-3. 0 (0). 1991. 277-282.
CODEN: VMAVE
Language: ENGLISH
Document Type: CONFERENCE PAPER

9/3/2 (Item 2 from file: 5)
8387559 BIOSIS Number: 41071559
CARBOXY-TERMINALLY TRUNCATED DENGUE VIRUS ENVELOPE GLYCOPROTEINS EXPRESSED ON THE CELL SURFACE EXHIBIT INCREASED IMMUNOGENICITY IN MICE
MEN R; BRAY M; LAI C-J
MOL. VIRAL BIOL. SECT., LAB. INFECTIOUS DIS., NIAID, NATL. INST. HEALTH, BETHESDA, MD. 20892.
CHANOCK, R. M., ET AL. (ED.). VACCINES (COLD SPRING HARBOR), VOL. 91. MODERN APPROACHES TO NEW VACCINES INCLUDING PREVENTION OF AIDS; EIGHTH ANNUAL MEETING, COLD SPRING HARBOR, NEW YORK, USA, SEPTEMBER 1990. XXIII+441P. COLD SPRING HARBOR LABORATORY PRESS: COLD SPRING HARBOR, NEW YORK, USA. ILLUS. PAPER. ISBN 0-87969-367-3. 0 (0). 1991. 251-258.
CODEN: VMAVE
Language: ENGLISH
Document Type: CONFERENCE PAPER

9/3/3 (Item 3 from file: 5)
8198060 BIOSIS Number: 91119060
SAFETY OF AND IMMUNOLOGICAL RESPONSE TO A RECOMBINANT VACCINIA VIRUS VACCINE EXPRESSING HIV ENVELOPE GLYCOPROTEIN
COONEY E L; COLLIER A C; GREENBERG P D; COOMBS R W; ZARLING J; ARDITTI D E; HOFFMAN M C; HU S-L; COREY L
PAC. MED. CENT. ZB-30, 1200 12TH AVENUE SOUTH, ROOM 9307, SEATTLE, WASHINGTON 98144.
LANCET (N AM ED) 337 (8741). 1991. 567-572. CODEN: LANAA
Language: ENGLISH

9/3/4 (Item 4 from file: 5)
7855905 BIOSIS Number: 40056905
DEVELOPMENT OF A SPECIFIC SEROLOGICAL TEST AND AN EFFICIENT SUBUNIT VACCINE TO CONTROL BOVINE LEUKEMIA VIRUS INFECTION
PORTETELLE D; BURNY A; DESMETTRE P; MAMMERICKX M; PAOLETTI E; ZAVADA J
FAC. AGRON., 5800 GEMBLOUX, BELGIUM.
INTERNATIONAL ASSOCIATION OF BIOLOGICAL STANDARDIZATION. DEVELOPMENTS IN BIOLOGICAL STANDARDIZATION, VOL. 72. 21ST CONGRESS OF THE IABS (INTERNATIONAL ASSOCIATION OF BIOLOGICAL STANDARDIZATION): PROGRESS IN ANIMAL RETROVIRUSES; SYMPOSIUM, ANNECY, FRANCE, OCTOBER 4-6, 1989. X+393P. S. KARGER AG: BASEL, SWITZERLAND; NEW YORK, NEW YORK, USA. ILLUS. PAPER. ISBN 3-8055-5271-8. 0 (0). 1990. 81-90. CODEN: DVBSA
Language: ENGLISH
Document Type: CONFERENCE PAPER

9/3/5 (Item 5 from file: 5)
7754663 BIOSIS Number: 90122663
CONTRIBUTION OF MEASLES VIRUS FUSION PROTEIN IN PROTECTIVE IMMUNITY ANTI-F MONOCLONAL ANTIBODIES NEUTRALIZE VIRUS INFECTIVITY AND PROTECT MICE AGAINST CHALLENGE
MALVOISIN E; WILD F
IMMUNO-VIROL. MOL. ET CELLULAIRE UMR 30, CENTRE NATIONAL DE LA RECHERCHE SCI., FAC. DE MEDECINE ALEXIS CARREL, RUE GUILLAUME PARADIN, 69372 LYON CEDEX 08, FR.
J VIROL 64 (10). 1990. 5160-5162. CODEN: JOVIA
Full Journal Title: Journal of Virology
Language: ENGLISH

9/3/6 (Item 6 from file: 5)
7752947 BIOSIS Number: 90121947

IPTG-DEPENDENT VACCINIA VIRUS IDENTIFICATION OF A VIRUS PROTEIN ENABLING VIRION ENVELOPMENT BY GOLGI MEMBRANE AND EGRESS
RODRIGUEZ J F; SMITH G L
SIR WILLIAM DUNN SCHOOL PATHOL., UNIVERSITY OXFORD, SOUTH PARKS RD., OXFORD OX1 3RE, UK.
NUCLEIC ACIDS RES 18 (18). 1990. 5347-5352. CODEN: NARHA
Full Journal Title: Nucleic Acids Research
Language: ENGLISH

9/3/7 (Item 7 from file: 5)
7584015 BIOSIS Number: 39096622
BIOSYNTHESIS AND ASSEMBLY OF RECOMBINANT HIV PROTEINS AND PARTICLES
MOSS B; EARL P; DOMS R; CHAKRABARTI S; KARACOSTAS V; NAGASHIMA K; GONDA M
LAB. VIRAL DIS., NATL. INST. ALLERGY AND INFECTIOUS DIS., NIH, BETHESDA, MD. 20892.
SYMPOSIUM ON HIV AND AIDS: PATHOGENESIS, THERAPY AND VACCINE HELD AT THE 19TH ANNUAL UCLA (UNIVERSITY OF CALIFORNIA-LOS ANGELES) SYMPOSIA ON MOLECULAR AND CELLULAR BIOLOGY, KEYSTONE, COLORADO, USA, MARCH 31-APRIL 6, 1990. J CELL BIOCHEM SUPPL 0 (14 PART D). 1990. 91. CODEN: JCBSD
Language: ENGLISH
Document Type: CONFERENCE PAPER

9/3/8 (Item 8 from file: 5)
7185564 BIOSIS Number: 88108309
VACCINIA VIRUS A SUITABLE VEHICLE FOR RECOMBINANT VACCINES?
KAPLAN C
DEP. MICROBIOL., UNIV. READING, LONDON ROAD, READING RG1 5AQ, ENGLAND.
ARCH VIROL 106 (1-2). 1989. 127-140. CODEN: ARVID
Full Journal Title: Archives of Virology
Language: ENGLISH

9/3/9 (Item 9 from file: 5)
6512691 BIOSIS Number: 85113212
RECOMBINANT VACCINIA VIRUS VACCINE AGAINST THE HUMAN MELANOMA ANTIGEN P97 FOR USE IN IMMUNOTHERAPY
ESTIN C D; STEVENSON U S; PLOWMAN G D; HU S-L; SRIDHAR P; HELLSTROM I; BROWN J P; HELLSTROM K E
ONCOGEN, 3005 FIRST AVE., SEATTLE, WASH. 98121.
PROC NATL ACAD SCI U S A 85 (4). 1988. 1052-1056. CODEN: PNASA
Full Journal Title: Proceedings of the National Academy of Sciences of the United States of America
Language: ENGLISH

9/3/10 (Item 10 from file: 5)
6241908 BIOSIS Number: 35107429
THERAPEUTIC VACCINE AGAINST MELANOMA ASSOCIATED ANTIGEN P97 IN MURINE TUMOR MODEL
ESTIN C D; STEVENSON U S; HELLSTROM I; HELLSTROM K E
ONCOGEN, 3005 1ST AVE., SEATTLE, WA 98121, USA.
SYMPOSIUM ON HUMAN TUMOR ANTIGENS AND SPECIFIC TUMOR THERAPY HELD AT THE 17TH ANNUAL UCLA (UNIVERSITY OF CALIFORNIA-LOS ANGELES) SYMPOSIA ON MOLECULAR AND CELLULAR BIOLOGY, KEYSTONE, COLORADO, USA, APRIL 23-30, 1988. J CELL BIOCHEM 0 (12 PART E). 1988. 144. CODEN: JCBSD
Language: ENGLISH
Document Type: CONFERENCE PAPER

9/3/11 (Item 11 from file: 5)
6087148 BIOSIS Number: 34089455
RECOMBINANT VACCINIA VIRUS VACCINES
TARTAGLIA J; PAOLETTI E
WADSWORTH CENT. LAB. RES., NEW YORK STATE DEP. HEALTH, EMPIRE STATE PLAZA, ALBANY, N.Y. 12201, USA.
TRENDS BIOTECHNOL 6 (2). 1988. 43-46. CODEN: TBRID
Full Journal Title: Trends in Biotechnology
Language: ENGLISH

9/3/12 (Item 12 from file: 5)
5246590 BIOSIS Number: 81013897
IMMUNIZATION OF CATTLE WITH A RECOMBINANT TOGAVIRUS-VACCINIA VIRUS STRAIN
FRANKE C A; BERRY E S; SMITH A W; HRUBY D E
CENTER GENE RESEARCH, DEP. MICROBIOL., OREGON STATE UNIV., CORVALLIS, OREGON 97331.
RES VET SCI 39 (1). 1985. 113-115. CODEN: RVTSA
Full Journal Title: Research in Veterinary Science
Language: ENGLISH

9/3/13 (Item 13 from file: 5)
5094554 BIOSIS Number: 30106861
A LIVE RECOMBINANT VACCINIA VIRUS VACCINE AGAINST MALARIA
LANGFORD C; EDWARDS S; CORCORAN L; MCINTYRE P; KEMP D; ANDERS R; MITCHELL G
WALTER AND ELIZA HALL INSTITUTE MEDICAL RESEARCH, MELBOURNE, VICTORIA 3030, AUSTRALIA.
SYMPOSIUM ON MOLECULAR STRATEGIES OF PARASITIC INVASION HELD AT THE 15TH ANNUAL UCLA (UNIVERSITY OF CALIFORNIA-LOS ANGELES) MEETING ON MOLECULAR AND CELLULAR BIOLOGY, LOS ANGELES, CALIF., USA, JAN. 26-31, 1986. J CELL BIOCHEM SUPPL 0 (10 PART A). 1986. 148. CODEN: JCBSD
Language: ENGLISH
Document Type: CONFERENCE PAPER

9/3/14 (Item 14 from file: 5)
5055286 BIOSIS Number: 30067593
GENETIC ENGINEERING OF LIVE RECOMBINANT VACCINIA VIRUS VACCINES
MOSS B
LAB. VIRAL DISEASES, NATIONAL INST. ALLERGY AND INFECTIOUS DISEASES, BETHESDA, MARYLAND 20205.
DREESMAN, G. R., J. G. BRONSON AND R. C. KENNEDY (ED.). HIGH-TECHNOLOGY ROUTE TO VIRUS VACCINES; FIRST ANNUAL SOUTHWEST FOUNDATION FOR BIOMEDICAL RESEARCH INTERNATIONAL SYMPOSIUM, HOUSTON, TEX., USA, NOV. 8-10, 1984. VII+180P. AMERICAN SOCIETY FOR MICROBIOLOGY: WASHINGTON, D.C., USA. ILLUS. PAPER. ISBN 0-914826-81-6. 0 (0). 1985. 69-74. CODEN: 22100
Language: ENGLISH
Document Type: CONFERENCE PAPER

9/3/15 (Item 15 from file: 5)
4722522 BIOSIS Number: 29079837
LIVE RECOMBINANT POXVIRUS VACCINE DIRECTED AGAINST HERPES SIMPLEX
PAOLETTI E; LIPINSKAS B R; WOOLHISER S; FLAHERTY L
LAB. OF IMMUNOLOGY, CENTER FOR LAB. AND RESEARCH, NY STATE DEP. OF HEALTH, ALBANY, NY 12201.
RAPP, F. (ED.). UCLA (UNIVERSITY OF CALIFORNIA LOS ANGELES) SYMPOSIA ON MOLECULAR AND CELLULAR BIOLOGY NEW SERIES, VOL. 21. HERPESVIRUS; MEETING, STEAMBOAT SPRINGS, COLO., USA, APR. 8-13, 1984. XXIV+715P. ALAN R. LISS, INC.: NEW YORK, N.Y., USA. ILLUS. ISBN 0-8451-2620-2. 0 (0). 1984 (RECD. 1985). 663-676. CODEN: USMBD
Language: ENGLISH
Document Type: CONFERENCE PAPER

9/3/16 (Item 1 from file: 357)
080383 DBA Accession No.: 88-11232
Expression of streptococcal M protein in mammalian cells - recombinant vaccinia virus vaccine against group A Streptococcus spp.
AUTHOR: Hruby D E; Hodges W M; Wilson E M; Franke C A; Fischetti V A
CORPORATE SOURCE: Center for Gene Research, Department of Microbiology, Oregon State University, Corvallis, OR 97331, USA.
JOURNAL: Proc.Natl.Acad.Sci.U.S.A. (85, 15, 5714-17) 1988 CODEN: PNASA6
LANGUAGE: English

9/3/17 (Item 2 from file: 357)
075667 DBA Accession No.: 88-06516 PATENT
Production of recombinant vaccinia virus vaccine - by inserting a promoter and heterogeneous DNA in close proximity into an attenuated Lister

mutant strain; culture in rabbit kidney cells etc.
PATENT ASSIGNEE: Nat.Inst.Health-Japan 1988
PATENT NUMBER: EP 263591 PATENT DATE: 880413 WPI ACCESSION NO.: 88-100000 (8815)
PRIORITY APPLIC. NO.: JP 86208772 APPLIC. DATE: 860904
NATIONAL APPLIC. NO.: EP 87307693 APPLIC. DATE: 870901
LANGUAGE: English

9/3/18 (Item 3 from file: 357)
069169 DBA Accession No.: 87-13517
Molecular cloning and sequence analysis of the rinderpest virus mRNA encoding the hemagglutinin protein - potential application in recombinant vaccine production
AUTHOR: Tsukiyama K; Sugiyama M; Yoshikawa Y; Yamanouchi K
CORPORATE SOURCE: Laboratory Animal Research Center, Institute of Medical Science, University of Tokyo, Minato-ku, Tokyo 108, Japan.
JOURNAL: Virology (160, 1, 48-54) 1987 CODEN: VIRLAX
LANGUAGE: English

9/3/19 (Item 4 from file: 357)
063443 DBA Accession No.: 87-07791
Use of vaccinia virus to express biopharmaceutical products - especially recombinant vaccine production; review
AUTHOR: Hruby D E; Thomas G
CORPORATE SOURCE: Department of Microbiology, Oregon State University, Corvallis, Oregon 97331, USA.
JOURNAL: Pharm.Res. (4, 2, 92-97) 1987 CODEN: 7308D
LANGUAGE: English

9/3/20 (Item 5 from file: 357)
062446 DBA Accession No.: 87-06794 PATENT
A process for the purification of recombinant vaccinia virus - for use as vaccine
PATENT ASSIGNEE: Chibaken; Nippon-Zeon 1987
PATENT NUMBER: JP 62044179 (Kokai) PATENT DATE: 870226
WPI ACCESSION NO.: 87-096988 (8714)
PRIORITY APPLIC. NO.: JP 85184589 APPLIC. DATE: 850822
NATIONAL APPLIC. NO.: JP 85184589 APPLIC. DATE: 850822
LANGUAGE: English

9/3/21 (Item 6 from file: 357)
058150 DBA Accession No.: 87-02498
Vaccinia virus vectors: potential use as live recombinant virus vaccines - vector construction (conference paper)
AUTHOR: Moss B; Buller M L
CORPORATE SOURCE: Laboratory of Viral Diseases, National Institute of Allergy and Infectious Diseases, Bethesda, Maryland 20205, USA. (36-39) 1985 CODEN: 9999Z
LANGUAGE: English

9/3/22 (Item 7 from file: 357)
050041 DBA Accession No.: 86-07889
An accidental human trial of recombinant vaccinia virus: a step towards acceptance of live recombinant vaccines-query - vesicular-stomatitis virus
AUTHOR: Keus J A R
CORPORATE AFFILIATE: Duphar
CORPORATE SOURCE: Molecular Biology Group, Duphar BV, PO Box 2, 1380 AA Weesp, The Netherlands.
JOURNAL: Trends Biotechnol. (4, 5, 105-06) 1986 CODEN: 8921M
LANGUAGE: English

9/3/23 (Item 8 from file: 357)
037679 DBA Accession No.: 85-08468
Immunization against rabies using a recombinant vaccinia virus expressing the rabies glycoprotein - vaccine (conference abstract)

AUTHOR: Lathe R; Kieny M P; Drillien R; Lecocq J P; Wiktor T J; MacFarlan R I
CORRORATE AFFILIATE: Tr gene
CORPORATE SOURCE: Transgene, S.A., Strasbourg, France.
JOURNAL: Genet.Res. (45, 2, 213) 1985 CODEN: GENRA8
LANGUAGE: English

9/3/24 (Item 9 from file: 357)
036632 DBA Accession No.: 85-07421
Vaccinia virus recombinant expressing herpes simplex virus type 1 glycoprotein D prevents latent herpes in mice - genetically engineered vaccine
AUTHOR: Cremer K J; Mackett M; Wohlenberg C; Notkins A L; Moss B
CORPORATE SOURCE: Laboratory of Oral Medicine, National Institute of Dental Research, Bethesda, Maryland 20205, USA.
JOURNAL: Science (228, 4700, 737-40) 1985 CODEN: SCIEAS
LANGUAGE: English

9/3/25 (Item 10 from file: 357)
035599 DBA Accession No.: 85-06388
Viral and bacterial vectors of immunogenes - a review including vaccinia virus
AUTHOR: Cavanagh D
CORPORATE SOURCE: Department of Microbiology, Houghton Poultry Research Station, Houghton, Huntingdon, Cambridgeshire PE17 2DA, U.K.
JOURNAL: Vaccine (3, 1, 45-48) 1985 CODEN: 9005C
LANGUAGE: English

9/3/26 (Item 1 from file: 358)
040211 CBA Acc. No.: 09-02-000768 DOC. TYPE: Patent
Herpes virus recombinant pox virus vaccine.
AUTHOR: Paoletti, E.
CORPORATE SOURCE: Health Res. Inc., Albany, NY 12209, USA
CODEN: PIXXD2
PATENT NUMBER: WO 9012882
PATENT APPLICATION: US 339004 (890417)
PUBLICATION DATE: 1 Nov 1990 (901101) LANGUAGE: English

9/3/27 (Item 2 from file: 358)
033397 CBA Acc. No.: 07-11-004807 DOC. TYPE: Patent
Vaccines against rinderpest virus using recombinant vaccinia virus.
AUTHOR: Yamanouchi, K.; Hoshikawa, Y.; Tsukiyama, K.; Asano, K.; Maruyama, T.; Sugimoto, M.
CODEN: EPXXDW
PATENT NUMBER: EP 330781
PATENT APPLICATION: JP 4413488 (880229)
COMPANY: Toa Nenryo Kogyo, Japan
PUBLICATION DATE: 6 Sep 1989 (890906) LANGUAGE: English
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